What is claimed is:

1. A substance adsorption detection method comprising:

providing an optical waveguide layer which has a clad and a core, said core being made of a higher refractive index medium than said clad, both stacked on a crystal oscillator; and

measuring an oscillation characteristic of said crystal oscillator, and light waveguided with said optical waveguide layer serving as an optical waveguide path.

2. A substance adsorption detection method comprising:

constituting a crystal oscillator from a crystal, an electrode formed on one side of said crystal, and an optical waveguide electrode formed on an other side of said crystal and made of a transparent electrically conductive material having a higher refractive index than a refractive index of said crystal; and

measuring an oscillation characteristic of said crystal oscillator, and light waveguided with said optical waveguide electrode serving as an optical waveguide path.

3. A substance adsorption detection method comprising:

constituting a crystal oscillator with a crystal and an electrode formed on either side of said crystal; and

measuring an oscillation characteristic of said crystal oscillator, and light waveguided with an interior of said crystal oscillator serving as an optical waveguide path.

4. The substance adsorption detection method according to any one of claims 1 to 3, wherein a metallic film is formed on said optical waveguide path.

5. A substance adsorption detection method comprising:

measuring a propagation characteristic of a surface acoustic wave in a surface acoustic wave element, and light waveguided through an optical waveguide path provided in or on said surface acoustic wave element.

6. A substance adsorption detection method comprising:

forming a metallic colloid layer on a crystal oscillator or a surface acoustic wave element;

measuring an adsorbed mass with said crystal oscillator or said surface acoustic wave element; and

measuring an optical characteristic of said metallic colloid layer.

7. The substance adsorption detection method according to any one of claims 1 to 6, wherein a sensitive material layer whose optical characteristic is changed by substance adsorption is provided.

8. A sensor provided with an optical waveguide layer in which a clad made of a relatively low refractive index medium and a core made of a relatively high refractive index are stacked on a crystal oscillator, and which serves as an optical waveguide path for

waveguiding light.

9. A sensor having a crystal oscillator that comprises:

a crystal;

an electrode formed on one side of said crystal; and

an optical waveguide electrode which is formed on an other side of said crystal, made of a transparent electrically conductive material having a higher refractive index than a refractive index of said crystal, and serves as an optical waveguide path for waveguiding light.

10. A sensor which constitutes a crystal oscillator with a crystal and an electrode formed on either side of said crystal, and measures an oscillation characteristic of said crystal oscillator, and light waveguided with an interior of said crystal oscillator serving as an optical waveguide path.

11. The sensor according to any one of claims 8 to 10, wherein a metallic film is formed on said optical waveguide path.

12. A sensor which measures a propagation characteristic of a surface acoustic wave in a surface acoustic wave element, and light waveguided through an interior of said surface acoustic wave element.

13. A sensor comprising:

a crystal oscillator or a surface acoustic wave element; and

a metallic colloid layer formed on said crystal oscillator or said surface acoustic wave element.

14. The sensor according to any one of claims 8 to 13, provided with a sensitive material layer whose optical characteristic is changed by substance adsorption.